PATENT
ATTORNEY DOCKET NO: NTL-9-PCT-US (16853RRUS06N)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant: Haseeb Akhtar	)	Examiner: Sarwar Chughtai
Serial No: 10/591,227	)	Art Unit: 2617
Filed: August 31, 2006	)	Deposit Acct. No: 141315
Title: Pre-Allocating Resources of a Wireless Network for Packet-Switched Real-Time, Interactive Communications	)	Confirmation No: 6645
	)	Customer No: 22827

Mail Stop Appeal Brief - Patents
Honorable Commissioner for Patents
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL

Honorable Commissioner:

Appellant submits the following Brief on Appeal in accordance with 37 C.F.R. § 41.37:

1. REAL PARTY IN INTEREST

The real party in interest in this matter is the Assignee of record, Nortel Networks Limited.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Appellant or the Appellant's legal representative which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

Claims 1-23 are currently pending in the captioned application, including independent claims 1, 13 and 19. All of the pending claims involved in this Appeal are attached hereto in the Claims Appendix.

Claims 1-23 stand rejected, and the rejection of all such claims is hereby appealed.

4. STATUS OF AMENDMENTS

Claims 1-23 are currently presented in the Claims Appendix in a form as set forth in the "Reply to Office Action Mailed May 21, 2010" submitted on August 23, 2010. The status of such claims as original, previously presented or the like is indicated in the Claims Appendix.

5. SUMMARY OF CLAIMED SUBJECT MATTER

I. Independent claim 1 is directed to a method of communicating in a wireless network. (See, e.g., the wireless network of Fig. 1 and corresponding discussion in paragraphs [0015]-[0020] of the subject published application.)

Such method includes pre-allocating, to a packet-switched real-time, interactive communications application, resources of at least one node of the wireless network. (See, e.g., paragraphs [0022]-[0024] and [0027] of the subject published application; see also steps 202-216 of Fig. 3 and corresponding discussion at paragraphs [0051]-[0055] of the subject published application.)

The pre-allocated resources comprise resources normally allocated in response to a call setup request. (See, e.g., paragraph [0027] of the subject published application.) The pre-allocated resources include resources relating to

a link with a predetermined quality of service. (See, e.g., paragraph [0036] of the subject published application.) The pre-allocating is performed by a system having a processor. (See, e.g., paragraph [0064] of the subject published application.)

The pre-allocating includes storing a pointer associated with a particular mobile station or a particular group of mobile stations. The pointer indicates that the pre-allocated resources are useable by the particular mobile station or particular group of mobile stations for call setup. (See, e.g., paragraphs [0039]-[0040] of the subject published application.)

The method also includes a step of receiving, from the particular mobile station or a member of the particular group of mobile stations, a first call setup request after pre-allocating the resources. (See, e.g., step 218 of Fig. 3 involving the sending and receiving of an origination message (call setup request), as discussed further in paragraph [0056] of the subject published application.)

The method also includes a step of establishing, in response to the first call setup request, a packet-switched real-time, interactive communications session through the wireless network using the pre-allocated resources of the at least one node. (See, e.g., paragraphs [0023] and [0061] of the subject published application.)

II. Independent claim 13 is directed to an interface to a communications network and a controller having a processor and coupled to the interface. (See, e.g., paragraphs [0064]-[0066].)

The controller receives a request to pre-allocate call setup resources in the system to a packet-switched real-time, interactive application. (See, e.g., steps 202, 206, 210 and 214 in Fig. 3 and corresponding discussion in paragraphs [0051]-[0055] of the subject published application.)

In response to the request, the controller pre-allocates the call setup resources, wherein the pre-allocated call setup resources include a pre-allocated Internet Protocol (IP) route having a particular quality of service. (See, e.g., paragraphs [0034]-[0036] of the subject published application.)

The controller receives a call setup request after pre-allocating the call setup resources. (See, e.g., step 218 of Fig. 3 involving the sending and receiving of an origination message (call setup request), as discussed further in paragraph [0056] of the subject published application.)

In response to the call setup request, the controller sets up a packet-switched real-time, interactive communications session using the pre-allocated call setup resources including the pre-allocated IP route. (See, e.g., paragraphs [0023] and [0061] of the subject published application.)

III. Independent claim 19 is directed to an article comprising at least one storage medium containing instructions (see, e.g., paragraph [0065] of the subject published application) that when executed cause a system to: receive a request to pre-allocate resources for a packet-switched real-time, interactive application (see, e.g., steps 202, 206, 210 and 214 in Fig. 3 and corresponding discussion in paragraphs [0051]-[0055] of the subject published application), the

pre-allocated resources normally allocated during a call setup procedure (see, e.g., paragraph [0027] of the subject published application.)

The pre-allocated resources enable avoidance of allocating the resources during a call setup procedure. (See, e.g., paragraphs [0026]-[0027] of the subject published application.) The pre-allocated resources include resources related to a link with a predetermined quality of service. (See, e.g., paragraph [0036] of the subject published application.)

In response to the request, the resources and store information pertaining to the pre-allocated resources are pre-allocated in a storage. (See, e.g., pre-allocated resources 44, 57, 66 and 76 associated with respective storage elements 46, 52, 68 and 74 in Fig. 1 and the corresponding discussion in paragraphs [0034], [0038] and [0045] of the subject published application.)

The pre-allocating includes storing a pointer associated with a particular mobile station or a particular group of mobile stations. The pointer indicates that the pre-allocated resources are useable by the particular mobile station or particular group of mobile stations for call setup. (See, e.g., paragraphs [0039]-[0040] of the subject published application.)

Subsequent to pre-allocating the resources, a call setup request from the particular mobile station or member of the particular group of mobile stations is processed using the pre-allocated resources. (See, e.g., step 218 of Fig. 3 involving the sending and receiving of an origination message (call setup request), as discussed further in paragraph [0056] of the subject published application.)

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

I. Whether the cited combination of U.S. Patent No. 7,277,423 B1 (Welch) and U.S. Patent Application No. 2009/0303909 A1 (Farhoudi et al.) fails to establish a prima facie case of obviousness under 35 U.S.C. §103(a) with respect to claims 1-23.

7. ARGUMENT

I. Claims 1-23 are patentable under 35 U.S.C. § 103(a) over U.S. Patent No. 7,277,423 B1 (Welch) and U.S. Patent Application No. 2009/0303909 A1 (Farhoudi et al.).

The pending rejections citing U.S. Patent No. 7,277,423 B1 (Welch) and U.S. Patent Application No. 2009/0303909 A1 (Farhoudi et al.) fail to constitute a prima facie case of obviousness under 35 U.S.C. § 103(a). The combination of references fails to disclose the one or more elements set forth in independent claims 1, 13 and 19. As such, Appellant respectfully submits that claims 1-23 are patentable under 35 U.S.C. § 103 over the cited combination of references.

Nowhere has the USPTO's burden of establishing a prima facie case of unpatentability been more articulated than within the context of obviousness analysis under 35 U.S.C. § 103. The legal concept of prima facie obviousness is a procedural tool of examination that dictates who has the burden of producing evidence in each step of the examination process. The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness. See, e.g., *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *In re Linter*, 458 F.2d 1013, 173 USPQ

560 (CCPA 1972); *In re Saunders*, 444 F.2d 599, 170 USPQ 213 (CCPA 1971); *In re Tiffin*, 443 F.2d 394, 170 USPQ 88 (CCPA 1971), *amended*, 448 F.2d 791, 171 USPQ 294 (CCPA 1971); *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968).

The key to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The U.S. Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. § 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR,* 550 U.S. 398, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).

Not only must a prima facie case of obviousness be clearly articulated by the Examiner, but the cited references must actually disclose all limitations of a rejected claim. To establish a prima facie case of obviousness, in addition to other requirements, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In light of the above requirements, Appellant submits that the Examiner has failed to establish a required prima facie case of obviousness.

A. Claims 1-12 and 22 are patentable over the combination of Welch and Farhoudi et al.

The cited references, singularly or in combination, fail to disclose many of the elements of independent claim 1. Key among such elements are those limitations relating to the step of pre-allocating, to a packet-switched, real-time, interactive communications application, resources of at least one node of a wireless network. In particular, the cited references fail to disclose the pre-allocation of resources that are useable for call setup, and that the pre-allocated resources include resources relating to a link with a predetermined quality of service. As such, claim 1 and all claims depending therefrom are patentable over the combination of Welch and Farhoudi et al.

1. Welch fails to disclose all limitations of independent claim 1.

Regarding claim 1, the Examiner has aptly acknowledged the many deficiencies of Welch as a base reference. In general, Welch fails to disclose any aspect of the pre-allocating step and related limitations set forth in claim 1. More particularly, as indicated on numbered pages 3 and 4 of the November 10, 2010 Office Action, "*Welch explicitly fails to disclose, the pre-allocated resources comprising resources normally allocated in response to a call setup request, wherein the pre-allocated resources include resources relating to a link with a predetermined quality of service, wherein the pre-allocating is performed by a system having a processor, and the pre-allocating includes storing a pointer associated with a particular mobile station or a particular group of mobile stations, where the pointer indicates that the pre-allocated resources are usable*

by the particular mobile station or particular group of mobile stations for call setup."

As purportedly disclosing the "receiving" and "establishing" elements of claim 1, numbered page 3 of the November 10, 2010 Office Action cited the following passage of Welch: column 10, lines 45-54. This passage of Welch refers to a station receiving a user request to initiate a media session, such as a PTT session. See col. 10, lines 45-48 of Welch. In response, the station begins acquiring a data connection, such as a radio link and a data link. See col. 10, lines 48-50 of Welch. The station then determines that it has successfully acquired a data connection, and the station begins receiving media from the user and buffering the media for subsequent transmission. See col. 10, lines 50-54 of Welch.

It is clear that the session set up performed in Welch does not use pre-allocated resources of a node of a wireless network, as affirmatively recited in claim 1. For the purpose of performing session setup, Welch would have led a person of ordinary skill in the art to performing session setup in which resources are allocated after the setup request has been received. Such post-request allocation is an example of the type of conventional resource allocation technologies that the method of claim 1 is specifically designed to overcome. For example, paragraphs [0026]-[0027] of the subject published application describe how the presently disclosed pre-allocation of resources is distinguished from prior art systems in which resources are only allocated after a call setup procedure is initiated.

Conventional technology such as that disclosed by Welch, which does not involve any pre-allocation of resources, can be time consuming, and add to the delay experienced by a user. The delay caused by allocating certain resources during the call setup procedure may not be acceptable for certain packet-switched, delay-sensitive applications, such as voice-over-IP applications, PTT applications, text chat or instant messaging applications, and so forth. (See paragraph [0026] of the subject published application.)

Because Welch fails to disclose numerous features of claim 1, such reference cannot serve to render such claim unpatentable. As detailed below, the other cited reference fails to cure the many deficiencies of Welch.

2. Farhoudi et al. fails to cure the deficiencies of Welch with respect to independent claim 1.

Farhoudi et al. also fails to disclose various limitations of claim 1 relating to the pre-allocation of resources for at least one node in a wireless communications network. In particular, Farhoudi et al. fails to disclose two important limitations of claim 1. First, Farhoudi et al. fails to disclose the pre-allocation of resources **that are useable for call setup**. Second, Farhoudi et al. fails to disclose that pre-allocated resources include resources relating to a link with **a predetermined quality of service**.

Concerning the first shortcoming of Farhoudi et al., Appellant notes that claim 1 has a very particular requirement whereby use of the pre-allocated resources are for implementing call setup coordination. In fact, claim 1 requires that the "pre-allocated resources are useable by the particular mobile station or particular group of mobile stations **for call setup**." As further recited in claim 1, a

first **call setup request** is received from the particular mobile station or a member of the particular group of mobile stations. In response to this **first call setup request**, a packet-switched real-time, interactive communications session is established. As such, claim 1 makes clear that the pre-allocated resources are used for implementing call setup coordination.

The November 10, 2010 Office Action appears to equate a "dedicated channel" of Farhoudi et al. with the pre-allocated resources required by claim 1. A "dedicated channel" is created in Farhoudi et al. for the specific purpose of reserving a single communications channel for point-to-multipoint transmission of data from a single sending mobile unit to multiple receiving mobile units within a cell. (See paragraph [0055] of Farhoudi et al.) This form of point-to-multipoint data transmission is preferred for data transmission to several mobile units instead of one channel per mobile unit as in the prior art point-to-point transmission. (See paragraph [0053] of Farhoudi et al.)

The dedicated channel disclosed by Farhoudi et al. is not used for call setup purposes, but instead for actual data transmission between identified mobile units in the course of an already established communications session. As discussed in paragraph [0049] of Farhoudi et al., the identification of desired point-to-multipoint data transmission occurs "**[d]uring the communications session.**" **Actual communication data (data packets)**, as opposed to a call setup request, is then transmitted to a base station 10 and forwarded to the communications server 100. Paragraph [0049] of Farhoudi et al. As such, Farhoudi et al. implements a dedicated channel for point-to-multipoint data

transmission **during** a PoC session **after the session has already been set up**. Therefore, Farhoudi et al. does not use its "dedicated channel" for call setup coordination, but only for effective packet data transmission after call setup has already occurred.

This fundamental difference between the use of Farhoudi et al.'s "dedicated channel" and claim 1's "pre-allocated resources" is further evident from the explicitly identified purposes for these respective technologies. As recited in claim 1 and as further described in paragraph [0061] of the subject published application, pre-allocated resources specifically helps reduce call setup time. Specifically, "[b]y reserving or pre-allocating resources at the nodes of a communications network, such as the BTS, BSC, PDSN, and PTT server, **call setup time can be reduced** for specific packet-based, delay-sensitive applications, such as PTT applications, voice-over-IP applications, text chat applications, and instant messaging applications." In contrast to the use of claim 1's pre-allocated resources for call setup purposes, the dedicated channel in Farhoudi et al. is used to avoid delays in actual data transfer and in loss of data burst. (See, e.g., paragraphs [0004]-[0006] of Farhoudi et al. and numbered page 5 of the November 10, 2010 Office Action discussing the same.)

Because Farhoudi et al. uses dedicated channels for data transmission after a call has been setup, Farhoudi et al. does not disclose using pre-allocated resources for the purpose of call setup as required by claim 1. For at least this reason, Farhoudi et al. fails to cure the deficiencies of Welch.

Concerning the second shortcoming of Farhoudi et al., claim 1 also requires that "the pre-allocated resources include resources relating to a link with a predetermined quality of service." When links having predetermined quality of service are identified and implemented, advantages can be achieved of implementing different priority levels of communication. For example, some packets associated with a particular packet-switched, delay-sensitive application are treated as higher-priority packets that are routed over the pre-allocated routes. (See paragraph [0036] of the subject published application.)

Farhoudi et al. recognize the basic idea that link quality can make a difference in wireless communication, but fails to disclose that the pre-allocated resources include resources relating to a link with a **predetermined quality of service,** as required by claim 1. Paragraphs [0083]-[0084] of Farhoudi et al. discuss how link quality control (LQC) can differ among mobile units listening on the same channel. Because some units may have a higher quality link and some units may have a lower quality link, a safe coding scheme may be chosen that can accommodate a relatively wide range of radio link qualities. This recognition in Farhoudi et al. that different quality of communication links exist does not equate to providing pre-allocated resources having a predetermined quality of service.

Nowhere in Farhoudi et al. is the "dedicated channel" described as having a pre-determined quality of service. In contrast, the above paragraphs of [0083]-[0084] recognize that providing pre-allocated resources having a predetermined quality of service is not really even possible in the point-to-multipoint

transmission of Farhoudi et al. since the quality of service from a sending unit to one receiving unit may be different than the quality of service from the same sending unit to another receiving unit within the same channel. As such, Farhoudi et al. fails to disclose providing resources relating to a link with a predetermined quality of service as part of the pre-allocated resources set forth in claim 1.

Because Farhoudi et al. merely discloses that different quality of service links might exist in a given channel, Farhoudi et al. fails to more specifically disclose that pre-allocated resources include resources relating to a link with a predetermined quality of service as required by claim 1. For at least this additional reason, Farhoudi et al. fails to cure the deficiencies of Welch.

For at least the reasons set forth above, the combination of Welch and Farhoudi et al. fails to set forth a prima facie case of obviousness relative to claim 1. Appellant requests acknowledgement that claim 1 is allowable over the cited combination of references.

3. Because dependent claims 2-12 and 22 further depend from and limit otherwise allowable independent claim 1, such claims are also patentable under 35 U.S.C. § 103(a).

With regard to claims 2-12 and 22, such claims depend from otherwise allowable claim 1 and further limit such independent claim. If an independent claim is nonobvious under 35 U.S.C. § 103(a), then any claim depending therefrom is nonobvious. *In re Fine*, 387 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1998), emphasis added. Since claim 1 should be allowed over the cited art,

so should claims 2-12 and 22. Appellant respectfully requests acknowledgement of allowance.

B. Claims 13-18 are patentable over the combination of Welch and Farhoudi et al.

A prima facie case of obviousness has not been properly established with respect to independent claim 13. The cited references, singularly or in combination, fail to disclose many of the elements of independent claim 13. Key among such elements are those limitations relating to the pre-allocation of call setup resources. In particular, the cited references fail to disclose the pre-allocation of resources that are useable for call setup, that the pre-allocated call setup resources include a pre-allocated Internet Protocol (IP) route, and that the pre-allocated call setup resources have a particular quality of service.

1. Welch fails to disclose all limitations of independent claim 13.

Regarding claim 13, the Examiner has aptly acknowledged many deficiencies of Welch as a base reference. Numbered page 6 of the November 10, 2010 Office Action admits that "*Welch explicitly fails to discloses [sic], pre-allocating call setup resources and having a particular quality of service.*"

It is clear that the session set up performed in Welch does not involve the pre-allocation of call setup resources and utilization of those resources for setting up a packet-switched real-time interactive communications session. For the purpose of performing session setup, Welch would have led a person of ordinary skill in the art to performing session setup in which resources are allocated after the setup request has been received. Such post-request allocation is an

example of the type of conventional resource allocation technologies that the system of claim 13 is specifically designed to overcome. For example, paragraphs [0026]-[0027] of the subject published application describe how the presently disclosed pre-allocation of resources is distinguished from prior art systems in which resources are only allocated after a call setup procedure is initiated.

Conventional technology such as that disclosed by Welch, which does not involve any pre-allocation of resources, can be time consuming, and add to the delay experienced by a user. The delay caused by allocating certain resources during the call setup procedure may not be acceptable for certain packet-switched, delay-sensitive applications, such as voice-over-IP applications, PTT applications, text chat or instant messaging applications, and so forth. (See paragraph [0026] of the subject published application.)

Beyond the admitted deficiencies of Welch, Appellant submits that Welch also fails to disclose that the pre-allocated call setup resources include a pre-allocated Internet-Protocol (IP) route, as called for in claim 13.

Welch briefly mentions at col. 7, lines 14-17 that "a PDSN may assign a mobile-IP address to the mobile station, which the mobile station can use as its network address." However, use of a particular mobile-IP address is different than providing a designated pre-allocated IP route. Designating a pre-allocated IP route defines the actual packet data communication path to take between various communications nodes. In contrast, using a particular mobile IP address as disclosed in Welch is not establishing a pre-allocated IP route, but is only a

way to identify one endpoint within a potential route. Welch does not discuss anything about defining a given IP route for the particular pre-allocation purposes set forth in claim 13.

Welch also mentions at col. 10, lines 8-13 that packets may be routed over an IP network. However, this general reference to IP data activity does not equate to defining and setting aside a pre-allocated IP route for use with call setup in accordance with the system of claim 13. Nowhere does Welch discuss setting aside a particular IP route, much less an IP route specifically designated as a pre-allocated call setup resource.

Because Welch fails to disclose numerous features of claim 13, such reference cannot serve to render such claim unpatentable. As detailed below, the deficiencies of Welch are not cured by the other cited reference.

2. Farhoudi et al. fails to cure the deficiencies of Welch with respect to independent claim 13.

Farhoudi et al. also fails to disclose various limitations of claim 13 relating to the pre-allocation of call setup resources in a communications system. In particular, Farhoudi et al. fails to disclose three important limitations of claim 13. First, Farhoudi et al. fails to disclose the pre-allocation of resources **that are call setup resources**. Second, Farhoudi et al. fails to disclose that pre-allocated resources include resources having **a particular quality of service**. Third, Farhoudi et al. fails to disclose that pre-allocated resources include a **pre-allocated Internet Protocol (IP) route**.

Concerning the first shortcoming of Farhoudi et al., Appellant notes that claim 13 has several requirements indicating that pre-allocated resources are

used for implementing call setup coordination. In fact, claim 13 sets forth a system controller that "receive[s] a request to pre-allocate **call setup resources**." In response to the request, the controller of claim 13 then actually pre-allocates the **call setup resources**. The controller subsequently receives a **call setup request** after pre-allocating the **call setup resources**. Those pre-allocated **call setup resources** are then used **to set up** a packet-switched real-time, interactive communications session. As such, claim 13 makes clear that the pre-allocated resources are used for implementing call setup coordination.

The November 10, 2010 Office Action appears to equate a "dedicated channel" of Farhoudi et al. with the pre-allocated call setup resources required by claim 13. A "dedicated channel" is created in Farhoudi et al. for the specific purpose of reserving a single communications channel for point-to-multipoint transmission of data from a single sending mobile unit to multiple receiving mobile units within a cell. (See paragraph [0055] of Farhoudi et al.) This form of point-to-multipoint data transmission is preferred for data transmission to several mobile units instead of one channel per mobile unit as in the prior art point-to-point transmission. (See paragraph [0053] of Farhoudi et al.)

The dedicated channel disclosed by Farhoudi et al. is not used for call setup purposes, but instead for actual data transmission between identified mobile units in the course of an already established communications session. As discussed in paragraph [0049] of Farhoudi et al., the identification of desired point-to-multipoint data transmission occurs "**[d]uring the communications session.**" **Actual communication data (data packets)**, as opposed to a call

setup request, is then transmitted to a base station 10 and forwarded to the communications server 100. Paragraph [0049] of Farhoudi et al. As such, Farhoudi et al. implements a dedicated channel for point-to-multipoint data transmission **during** a PoC session **after the session has already been set up**. Therefore, Farhoudi et al. does not use its "dedicated channel" for call setup coordination, but only for effective packet data transmission after call setup has already occurred.

This fundamental difference between the use of Farhoudi et al.'s "dedicated channel" and claim 13's "pre-allocated call setup resources" is further evident from the explicitly identified purposes for these respective technologies. As recited in claim 13 and as further described in paragraph [0061] of the subject published application, pre-allocated resources specifically helps reduce call setup time. Specifically, "[b]y reserving or pre-allocating resources at the nodes of a communications network, such as the BTS, BSC, PDSN, and PTT server, **call setup time can be reduced** for specific packet-based, delay-sensitive applications, such as PTT applications, voice-over-IP applications, text chat applications, and instant messaging applications." In contrast to the use of claim 13's pre-allocated resources for call setup purposes, the dedicated channel in Farhoudi et al. is used to avoid delays in actual data transfer and in loss of data burst. (See, e.g., paragraphs [0004]-[0006] of Farhoudi et al. and numbered page 5 of the November 10, 2010 Office Action discussing the same.)

Because Farhoudi et al. uses dedicated channels for data transmission after a call has been setup, Farhoudi et al. does not disclose using pre-allocated

call setup resources for the purpose of call setup as required by claim 13. For at least this reason, Farhoudi et al. fails to cure the deficiencies of Welch.

Concerning the second shortcoming of Farhoudi et al., claim 13 also requires that "the pre-allocated call setup resources ...have a **particular quality of service**." When links having predetermined quality of service are identified and implemented, advantages can be achieved of implementing different priority levels of communication. For example, some packets associated with a particular packet-switched, delay-sensitive application are treated as higher-priority packets that are routed over the pre-allocated routes. (See paragraph [0036] of the subject published application.)

Farhoudi et al. recognize the basic idea that link quality can make a difference in wireless communication, but fails to disclose that the pre-allocated resources include resources relating to a link with a **particular quality of service,** as required by claim 13. Paragraphs [0083]-[0084] of Farhoudi et al. discuss how link quality control (LQC) can differ among mobile units listening on the same channel. Because some units may have a higher quality link and some units may have a lower quality link, a safe coding scheme may be chosen that can accommodate a relatively wide range of radio link qualities. This recognition in Farhoudi et al. that different quality of communication links exist does not equate to providing pre-allocated resources having a particular quality of service.

Nowhere in Farhoudi et al. is the "dedicated channel" described as having a particular quality of service. In contrast, the above paragraphs of [0083]-[0084] recognize that providing pre-allocated resources having one particular quality of

service is not really even possible in the point-to-multipoint transmission of Farhoudi et al. since the quality of service from a sending unit to one receiving unit may be different than the quality of service from the same sending unit to another receiving unit within the same channel. As such, Farhoudi et al. fails to disclose providing call setup resources having a particular quality of service as set forth in claim 13.

Because Farhoudi et al. merely discloses that different quality of service links might exist in a given channel, Farhoudi et al. fails to more specifically disclose the provision of pre-allocated call setup resources having one particular quality of service as required by claim 13. For at least this additional reason, Farhoudi et al. fails to cure the deficiencies of Welch.

Concerning the third shortcoming of Farhoudi et al., such reference also fails to disclose pre-allocating call setup resources including a **pre-allocated Internet Protocol (IP) route**. Farhoudi et al. provides no hint of pre-allocating call setup resources that include a pre-allocated IP route. In Farhoudi et al., a "dedicated channel" is provided to allow for point-to-multipoint transmission of data to mobile units in a cell. (See, e.g., paragraph [0055] of Farhoudi et al.) Examples given of such dedicated channel include physical channels or sub-channels, or time slots. Id. It is clear that the dedicated channel of Farhoudi et al. is a wireless network resource. There is absolutely no mention whatsoever of pre-allocating call setup resources that include a pre-allocated **IP route**.

Although paragraph [0057] of Farhoudi et al. refers to an IP address, it is noted that this IP address is the identifier of a mobile station. The reference to

an IP address to use for identifying a mobile station does not provide details of a particular IP route through and among a communications network, and certainly does not provide any hint of pre-allocating call setup resources including a pre-allocated IP route, as required by claim 13.

Because Farhoudi et al. fails to disclose the pre-allocation of resources that are call setup resources, that pre-allocated resources include resources having a particular quality of service, and that pre-allocated resources include a pre-allocated Internet Protocol (IP) route, Farhoudi et al. fails to cure the many deficiencies of Welch. For at least these reasons, the combination of Welch and Farhoudi et al. fails to set forth a prima facie case of obviousness relative to claim 13. Appellant requests acknowledgement that claim 13 is allowable over the cited combination of references.

3. Because dependent claims 14-18 further depend from and limit otherwise allowable independent claim 13, such claims are also patentable under 35 U.S.C. § 103(a).

With regard to claims 14-18, such claims depend from otherwise allowable claim 13 and further limit such independent claim. If an independent claim is nonobvious under 35 U.S.C. § 103(a), then any claim depending therefrom is nonobvious. *In re Fine*, 387 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1998), emphasis added. Since claim 13 should be allowed over the cited art, so should claims 14-18. Appellant respectfully requests acknowledgement of allowance.

C. Claims 19-21 and 23 are patentable over the combination of Welch and Farhoudi et al.

A prima facie case of obviousness has not been properly established with respect to independent claim 19. The cited references, singularly or in combination, fail to disclose many of the elements of independent claim 19. Key among such elements are those limitations relating to the pre-allocation of resources and use of such resources for processing a call setup request. In particular, the cited references fail to disclose receiving a request to pre-allocate resources for a call setup procedure, and processing a call setup request using the pre-allocated resources. In addition, the cited references fail to disclose that the pre-allocated resources include resources related to a link with a predetermined quality of service.

1. Welch fails to disclose all limitations of independent claim 19.

Regarding claim 19, the Examiner has aptly acknowledged the many deficiencies of Welch as a base reference. In general, Welch fails to disclose any aspect of the resource pre-allocation and related limitations set forth in claim 19. More particularly, as indicated on numbered pages 7 and 8 of the November 10, 2010 Office Action, "*Welch explicitly fails to disclose, the pre-allocated resources normally allocated in response to a call setup request, wherein the predetermined resources include resources relating to a link with a predetermined quality of service, wherein the pre-allocating is performed by a system having a processor, and the pre-allocating includes storing a pointer associated with a particular mobile station or a particular group of mobile stations, where the pointer indicates that the pre-allocated resources are useable*

by the particular mobile station or particular group of mobile stations for call setup."

It is clear that the session set up performed in Welch does not use pre-allocated resources, as affirmatively recited in claim 19. For the purpose of performing session setup, Welch would have led a person of ordinary skill in the art to performing session setup in which resources are allocated after the setup request has been received. Such post-request allocation is an example of the type of conventional resource allocation technologies that the article of claim 19 is specifically designed to overcome. For example, paragraphs [0026]-[0027] of the subject published application describe how the presently disclosed pre-allocation of resources is distinguished from prior art systems in which resources are only allocated after a call setup procedure is initiated.

Conventional technology such as that disclosed by Welch, which does not involve any pre-allocation of resources, can be time consuming, and add to the delay experienced by a user. The delay caused by allocating certain resources during the call setup procedure may not be acceptable for certain packet-switched, delay-sensitive applications, such as voice-over-IP applications, PTT applications, text chat or instant messaging applications, and so forth. (See paragraph [0026] of the subject published application.)

Because Welch fails to disclose numerous features of claim 19, such reference cannot serve to render such claim unpatentable. As detailed below, the other cited reference fails to cure the many deficiencies of Welch.

2. Farhoudi et al. fails to cure the deficiencies of Welch with respect to independent claim 19.

Farhoudi et al. also fails to disclose various limitations of claim 19 relating to the pre-allocation of resources and use of such resources for call setup. In particular, Farhoudi et al. fails to disclose two important limitations of claim 19. First, Farhoudi et al. fails to disclose the pre-allocation of resources **that are useable for call setup** and that are in fact **used to process a call setup request.** Second, Farhoudi et al. fails to disclose that pre-allocated resources include resources relating to a link with **a predetermined quality of service**.

Concerning the first shortcoming of Farhoudi et al., claim 19 has several particular requirements whereby use of the pre-allocated resources are for implementing call setup coordination. In fact, claim 19 requires that the "pre-allocated resources are useable by the particular mobile station or particular group of mobile stations **for call setup**." As further recited in claim 19, subsequent to pre-allocating the resources, the system actually **processes a call setup request** using the pre-allocated resources. As such, claim 19 makes clear that the pre-allocated resources are used for implementing call setup coordination.

The November 10, 2010 Office Action appears to equate a "dedicated channel" of Farhoudi et al. with the pre-allocated resources required by claim 19. A "dedicated channel" is created in Farhoudi et al. for the specific purpose of reserving a single communications channel for point-to-multipoint transmission of data from a single sending mobile unit to multiple receiving mobile units within a cell. (See paragraph [0055] of Farhoudi et al.) This form of point-to-multipoint data transmission is preferred for data transmission to several mobile units

instead of one channel per mobile unit as in the prior art point-to-point transmission. (See paragraph [0053] of Farhoudi et al.)

The dedicated channel disclosed by Farhoudi et al. is not used for call setup purposes, but instead for actual data transmission between identified mobile units in the course of an already established communications session. As discussed in paragraph [0049] of Farhoudi et al., the identification of desired point-to-multipoint data transmission occurs "**[d]uring the communications session**." **Actual communication data (data packets)**, as opposed to a call setup request, is then transmitted to a base station 10 and forwarded to the communications server 100. Paragraph [0049] of Farhoudi et al. As such, Farhoudi et al. implements a dedicated channel for point-to-multipoint data transmission **during** a PoC session **after the session has already been set up**. Therefore, Farhoudi et al. does not use its "dedicated channel" for call setup coordination, but only for effective packet data transmission after call setup has already occurred.

This fundamental difference between the use of Farhoudi et al.'s "dedicated channel" and claim 19's "pre-allocated resources" is further evident from the explicitly identified purposes for these respective technologies. As recited in claim 19 and as further described in paragraph [0061] of the subject published application, pre-allocated resources specifically helps reduce call setup time. Specifically, "[b]y reserving or pre-allocating resources at the nodes of a communications network, such as the BTS, BSC, PDSN, and PTT server, **call setup time can be reduced** for specific packet-based, delay-sensitive

applications, such as PTT applications, voice-over-IP applications, text chat applications, and instant messaging applications." In contrast to the use of claim 19's pre-allocated resources for call setup purposes, the dedicated channel in Farhoudi et al. is used to avoid delays in actual data transfer and in loss of data burst. (See, e.g., paragraphs [0004]-[0006] of Farhoudi et al. and numbered page 5 of the November 10, 2010 Office Action discussing the same.)

Because Farhoudi et al. uses dedicated channels for data transmission after a call has been setup, Farhoudi et al. does not disclose using pre-allocated resources for the purpose of call setup as required by claim 19. For at least this reason, Farhoudi et al. fails to cure the deficiencies of Welch.

Concerning the second shortcoming of Farhoudi et al., Appellant notes that claim 19 also requires that "the pre-allocated resources include resources relating to a link with a predetermined quality of service." When links having predetermined quality of service are identified and implemented, advantages can be achieved of implementing different priority levels of communication. For example, some packets associated with a particular packet-switched, delay-sensitive application are treated as higher-priority packets that are routed over the pre-allocated routes. (See paragraph [0036] of the subject published application.)

Farhoudi et al. recognize the basic idea that link quality can make a difference in wireless communication, but fails to disclose that the pre-allocated resources include resources relating to a link with a **predetermined quality of service,** as required by claim 19. Paragraphs [0083]-[0084] of Farhoudi et al.

discuss how link quality control (LQC) can differ among mobile units listening on the same channel. Because some units may have a higher quality link and some units may have a lower quality link, a safe coding scheme may be chosen that can accommodate a relatively wide range of radio link qualities. This recognition in Farhoudi et al. that different quality of communication links exist does not equate to providing pre-allocated resources having a predetermined quality of service.

Nowhere in Farhoudi et al. is the "dedicated channel" described as having a pre-determined quality of service. In contrast, the above paragraphs of [0083]-[0084] recognize that providing pre-allocated resources having a predetermined quality of service is not really even possible in the point-to-multipoint transmission of Farhoudi et al. since the quality of service from a sending unit to one receiving unit may be different than the quality of service from the same sending unit to another receiving unit within the same channel. As such, Farhoudi et al. fails to disclose providing resources relating to a link with a predetermined quality of service as part of the pre-allocated resources set forth in claim 19.

Because Farhoudi et al. merely discloses that different quality of service links might exist in a given channel, Farhoudi et al. fails to more specifically disclose that pre-allocated resources include resources relating to a link with a predetermined quality of service as required by claim 19. For at least this additional reason, Farhoudi et al. fails to cure the deficiencies of Welch.

For at least the reasons set forth above, the combination of Welch and Farhoudi et al. fails to set forth a prima facie case of obviousness relative to claim 19. Appellant requests acknowledgement that claim 19 is allowable over the cited combination of references.

3. Because dependent claims 20-21 and 23 further depend from and limit otherwise allowable independent claim 19, such claims are also patentable under 35 U.S.C. § 103(a).

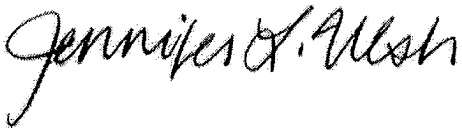
With regard to claims 20-21 and 23, such claims depend from otherwise allowable claim 19 and further limit such independent claim. If an independent claim is nonobvious under 35 U.S.C. § 103(a), then any claim depending therefrom is nonobvious. *In re Fine*, 387 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1998), emphasis added. Since claim 19 should be allowed over the cited art, so should claims 20-21 and 23. Appellant respectfully requests acknowledgement of allowance.

II. Conclusion

In conclusion, it is respectfully submitted that the present claims are patentable over the prior art of record in accordance with 35 U.S.C. § 103. In particular, the cited references fail to disclose all limitations of the claims, particularly independent claims 1, 13 and 19. Because of the deficiencies of the cited references, a prima facie case of obviousness has not been established. As such, the present application is in complete condition for allowance and Appellant respectfully requests issuance of the patent.

Respectfully submitted,

DORITY & MANNING,
ATTORNEYS AT LAW, P.A.



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8. CLAIMS APPENDIX

1. (Previously Presented) A method of communicating in a wireless network, comprising:

pre-allocating, to a packet-switched real-time, interactive communications application, resources of at least one node of the wireless network, the pre-allocated resources comprising resources normally allocated in response to a call setup request, wherein the pre-allocated resources include resources relating to a link with a predetermined quality of service, wherein the pre-allocating is performed by a system having a processor, and the pre-allocating includes storing a pointer associated with a particular mobile station or a particular group of mobile stations, where the pointer indicates that the pre-allocated resources are useable by the particular mobile station or particular group of mobile stations for call setup;

receiving, from the particular mobile station or a member of the particular group of mobile stations, a first call setup request after pre-allocating the resources; and

establishing, in response to the first call setup request, a packet-switched real-time, interactive communications session through the wireless network using the pre-allocated resources of the at least one node.

2. (Original) The method of claim 1, wherein pre-allocating the resources comprises pre-allocating resources of one of a base transceiver system and base

station controller.

3. (Original) The method of claim 1, wherein pre-allocating the resources comprises pre-allocating resources of a packet data serving node.

4. (Original) The method of claim 1, wherein pre-allocating the resources comprises pre-allocating resources of at least one of a press-to-talk server, voice-over-Internet Protocol server, and a call session control function module.

5. (Previously Presented) The method of claim 1, wherein pre-allocating the resources further comprises allocating the link between the at least one node and a second node in the wireless network to carry call control packets for the packet-switched real-time, interactive communications application, wherein the link comprises a dedicated channel.

6. (Original) The method of claim 5, wherein allocating the dedicated channel between the at least one node and the second node in the wireless network to carry packets for the packet-switched real-time, interactive communications application comprises allocating one of a T1/E1 trunk, Ethernet link, and IP route.

7. (Previously Presented) The method of claim 1, wherein pre-allocating the resources comprises pre-allocating binding information of a mobile station,

the binding information to establish a relationship between a radio domain and a packet domain, the method further comprising:

storing the binding information in a base station controller; and

using the binding information stored in the base station controller for establishing the packet-switched real-time, interactive session in response to the first call setup request.

8. (Previously Presented) The method of claim 7, wherein pre-allocating the resources comprises pre-allocating user-related information of the particular mobile station, the method further comprising:

storing the user-related information in the base station controller, wherein the user-related information indicates the predetermined quality of service assigned to the particular mobile station; and

using the user-related information stored in the base station controller for establishing the packet-switched real-time, interactive session in response to the first call setup request.

9. (Previously Presented) The method of claim 1, wherein pre-allocating the resources comprises pre-allocating binding information of the particular group of mobile stations, the method further comprising:

storing the binding information in a base station controller, wherein the binding information is to establish a relationship between a radio domain and a packet domain; and

using the binding information stored in the base station controller for establishing the packet-switched real-time, interactive session in response to the first call request.

10. (Original) The method of claim 1, further comprising: in response to an event, a management system sending a request to pre-allocate resources to the at least one node, wherein pre-allocating the resources is performed in response to the request to pre-allocate.

11. (Original) The method of claim 10, wherein sending the request to pre-allocate is performed during a provisioning process.

12. (Original) The method of claim 1, wherein pre-allocating the resources is performed in response to initiation of a mobile station.

13. (Previously Presented) A system comprising:

an interface to a communications network; and

a controller having a processor and coupled to the interface to:

receive a request to pre-allocate call setup resources in the system to a packet-switched real-time, interactive application;

in response to the request, pre-allocate the call setup resources, wherein the pre-allocated call setup resources include a pre-allocated Internet Protocol (IP) route having a particular quality of service;

receive a call setup request after pre-allocating the call setup resources; and

in response to the call setup request, set up a packet-switched real-time, interactive communications session using the pre-allocated call setup resources including the pre-allocated IP route.

14. (Previously Presented) The system of claim 13, wherein the pre-allocated call setup resources further include at least one of hardware, software, and communications elements of the system, wherein the pre-allocated call setup resources enable avoidance of allocating the pre-allocated call setup resources during a call setup procedure in response to the call setup request.

15. (Previously Presented) The system of claim 13, wherein the pre-allocated call setup resources further include at least one of user-related information, binding information, and mobility information, the system further comprising a storage to store the at least one of user-related information, binding information, and mobility information,

the controller to set up the packet-switched real-time, interactive communications session in response to the call setup request using the at least one of the user-related information, binding information, and mobility information.

16. (Original) The system of claim 13, wherein the pre-allocated call setup resources further comprise a dedicated channel between the system and another

node in a wireless network.

17. (Original) The system of claim 13, comprising one of a base transceiver system, base station controller, and packet data serving node of a wireless network.

18. (Original) The system of claim 13, wherein the packet-switched real-time, interactive application comprises at least one of a press-to-talk application, voice-over-Internet Protocol application, text chat application, and instant messaging application.

19. (Previously Presented) An article comprising at least one storage medium containing instructions that when executed cause a system to:

receive a request to pre-allocate resources for a packet-switched real-time, interactive application, the pre-allocated resources normally allocated during a call setup procedure, wherein the pre-allocated resources enable avoidance of allocating the resources during a call setup procedure, wherein the pre-allocated resources include resources related to a link with a predetermined quality of service;

in response to the request, pre-allocate the resources and store information pertaining to the pre-allocated resources in a storage, wherein the pre-allocating includes storing a pointer associated with a particular mobile station or a particular group of mobile stations, where the pointer indicates that

the pre-allocated resources are useable by the particular mobile station or particular group of mobile stations for call setup; and

subsequent to pre-allocating the resources, process a call setup request from the particular mobile station or member of the particular group of mobile stations using the pre-allocated resources.

20. (Original) The article of claim 19, wherein the pre-allocated resources include at least one of user-related information, binding information, and mobility information, wherein the system comprises a base station controller having the storage to store the at least one of the user-related information, binding information, and mobility information.

21. (Previously Presented) The article of claim 19, wherein the link includes an Internet Protocol (IP) route having the predetermined quality of service.

22. (Previously Presented) The method of claim 1, wherein the pre-allocated resources include a pre-allocated Internet Protocol (IP) route having the predetermined quality of service.

23. (Previously Presented) The article of claim 19, wherein the pre-allocated resources include a pre-allocated Internet Protocol (IP) route having the predetermined quality of service.

9. EVIDENCE APPENDIX

None

10. RELATED PROCEEDINGS APPENDIX

None